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ABSTRACT

To assist workers dislocated as Hungary and Poland move to market economies, the governments of both countries provide their labor force with unemployment compensation and various active labor programs (ALPs). ALP impacts were examined by surveying four randomly selected samples: 7,228 ALP participants from 10 counties in Hungary; 4,414 Hungarians not enrolled in ALPs; 7,507 ALP participants from 8 provinces in Poland; and 7,749 Poles not enrolled in ALPs. The response rates for the four groups were 81.4%, 76.5%, 92.6%, and 95.5%, respectively. The Hungarian ALP participants included individuals in one of the following: group retraining; individual retraining; wage subsidy program; public service employment; and self-employment. The Polish ALP participants included individuals in retraining, public works programs, intervention works programs, and self-employment. A preliminary analysis of the survey responses suggested that, in both countries, most ALPs were yielding positive impacts and employment services were providing additive benefits. Because strong evidence of nonrandom assignment to programs was found, it was emphasized that caution should be used when interpreting the preliminary results. Plans to analyze the survey responses further and obtain supplementary data were outlined. (Appendixes constituting approximately 50% of this document contain maps and 25 tables/figures.) (MN)

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Preliminary Evidence on Impacts of Active Labor Programs in Hungary and Poland

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Preliminary Evidence on Impacts of Active Labor Programs in Hungary And Poland

October 1997

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Preliminary Evidence on Impacts of Active Labor Programs in Hungary and Poland

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Preliminary Evidence on Impacts of Active Labor Programs in Hungary and Poland

ABSTRACT

To ease the hardship associated with worker dislocation and to maintain social stability during the transition to markets, the governments of Hungary and Poland provide labor force members with unemployment compensation and a variety of active labor programs (ALPs). Follow-up surveys of participants in retraining, public works, wage subsidies, self-employment, and comparison groups were done in Hungary and Poland in early 1997. Preliminary analysis suggests positive net impacts for most ALPs and additive benefits from the use of the employment service in both countries. Strong evidence of nonrandom assignment to programs means that great care should be used in interpreting the preliminary results and that further examination of the findings is necessary. Adjusted impact estimates for Hungary are provided, but supplementary data is needed from Poland to assess how representative the comparison groups are of the general population of registered unemployed workers.

1. INTRODUCTION

While they have adopted somewhat different macroeconomic strategies for the transition to a market economy, the central European the nations of Hungary and Poland have pursued quite similar policies for labor market support. To ease the hardship associated with worker dislocation and to maintain social stability during the transition, the governments of these countries provide unemployment compensation and a variety of active labor programs (ALPs). The experience of Hungary and Poland may enlighten employment policy in other transition economies by revealing what works and what does not work during such a dramatic period of change.

The active labor programs adopted in recent years include nearly the full menu existing in nations with developed market economies. The five primary ALPs used in these countries are retraining, public service employment, wage subsidies, self-employment assistance, and the employment service. A cross-country net impact evaluation of these ALPs in Hungary and Poland is currently under way. This paper presents some preliminary findings of research financed by the U.S. Department of Labor and coordinated by the World Bank with similar projects in the Czech Republic and Turkey.

The remainder of the paper proceeds as follows. In Section 2, the macroeconomic context of employment policy is briefly described. The systems for administration of employment policy are then given, followed by a short overview of important labor market support programs in each country. Section 5 examines sample design, survey processes, and interview success. Section 6 considers the characteristics of the samples interviewed. Section 7 presents unadjusted estimates of ALP impacts. Section 8 reconsiders program impacts in light of observable differences in sample composition. The concluding section offers summary remarks and outlines plans for continued analysis of the survey data.

2. THE MACROECONOMIC CONTEXT OF EMPLOYMENT POLICY

Since 1990, both Hungary and Poland have experienced dramatic declines in gross domestic product and increases in unemployment. The only comparable experience of such dramatic change is the Great Depression of the 1930s. Table 1 profiles the economic context of employment policy in Hungary and Poland during the 1990s, while Figure 1 graphically depicts the pattern of unemployment in the two countries.

In a population of about 10 million with a labor force nearly half that size, registered unemployment in Hungary rose from 23,000 in January 1990 to 705,000 in February 1993. Kollo (1993) estimates

that during this three-year period a million jobs were lost in Hungary (with part of the loss (188,000) absorbed by the retirement of workers), while the working age population grew by over 100,000. He admits some job growth during the period, but also estimates that nearly a quarter-million dropped out of the labor force. Since 1993, measured unemployment in Hungary has declined somewhat and as of April 1997 stood at a 10.8 percent national average. Lázár and Szekely (1994) provide evidence from a survey of unemployment compensation exhaustees that the decline in Hungarian unemployment is associated with an excessive increase in inactivity.

Unemployment in Poland jumped from zero in 1989 to 16.4 percent in 1993 measured on the basis of registrations with the employment service (ES). While unemployment estimates based on registered unemployment may be overstated (because many persons who are truly inactive only maintain registration with the employment service so as to keep eligibility for national health insurance), this remains a dramatic increase. The registered unemployment rate in Poland has gradually declined in recent months, falling to 13 percent in April of 1997.

The rise in unemployment is one of many consequences resulting from transition changes such as relaxed price controls, reduced state subsidies, and the loss of trading partners in COMECON countries.

There have also been dramatic increases in consumer prices, public budget deficits, and foreign trade debts. These events have prompted international monetary authorities to require ever greater restraint on public spending. Nonetheless, the programs of employment policy pursued in both countries have been impressive.

3. ADMINISTRATION OF EMPLOYMENT POLICY

3.1 Administration in Hungary

Hungary is composed of 20 major administrative districts, which include 19 counties (megye) and the capital city of Budapest. These 20 districts are the political entities to which labor market support programs are provided by a network of 20 County Labor Centers.

The Ministry of Labor is the leader in labor market support policy. Services are provided to job seekers through a nationwide network of county labor centers and local labor offices. There is the National Labor Center (Orszagos Munkaugyi Kozpont - OMK) in Budapest. The OMK provides methodological support to the counties and general information on labor market trends and labor program activity to the public. There are 20 County Labor Centers and 179 local labor offices, where programs are delivered to job seekers. There are about nine local labor offices (on average) within each county, which are supervised and supported by county labor centers.

3.2 Administration in Poland

Poland is divided into 49 major administrative districts, called voivods. These districts are the political entities to which labor market support programs are provided.

The Ministry of Labor and Social Policy is the leader in labor market support policy. Services are provided to job seekers through a nationwide network of labor offices. There is the National Labor Office (Krajowy Urzad Pracy - KUP) in Warsaw, which provides administrative support to the voivods and information on labor market trends and labor program activity. There are 49 Voivod Labor Offices and over 500 Local Labor offices where programs are delivered to job seekers. There are about 10 local labor offices within each voivod, which are managed and supported by the voivod labor office.

4. OVERVIEW OF EMPLOYMENT POLICY

Employment policy in Hungary and Poland is carried out through administration of both active and passive labor programs. In both countries the employment service is the central function of local labor centers. The employment service helps unemployed workers get job interviews, helps employers fill job vacancies, keeps records of the unemployed and job seekers, provides aptitude testing and vocational guidance, and solicits and registers job vacancies. The

local labor centers are one-stop-shopping places for reemployment assistance. In addition to providing placement services, these centers act as a unified clearing house for referral to a variety of active and passive support programs. The main ALPs in Hungary and Poland are listed in Table 2.

The main passive labor program in each country is unemployment compensation, which is available for a limited duration to unemployed workers with sufficient recent work experience. Hungary also operates a national unemployment assistance program, which is a quasi-welfare type of means tested assistance. The only second-tier support in Poland is social welfare assistance, which is administered and financed by local governments.

For conciseness, descriptions of the programs examined here are presented in tables. Table 3 provides brief summaries of the ALPs evaluated in Hungary. Table 4 gives the main features of the passive labor programs in Hungary: unemployment compensation and unemployment assistance. Table 5 provides ALP summaries for Poland, and Table 6 describes the passive labor support available in Poland.

Both Hungary and Poland provide skill retraining, under similar arrangements. Wage subsidies are also available in each country, but in Hungary the long-term unemployed are the target group, while in

Poland the program is not particularly targeted and operates under the name Intervention Works. Each country also operates direct job creation programs; in Hungary this is known as Public Service Employment and in Poland as Public Works. Assistance for the unemployed to become self-employed is also available in both countries. Hungarian self-employment assistance operates on the British model, which gives a series of periodic support payments during the start-up phase. The Polish self-employment program is somewhat like the French lump-sum assistance model, except that the Poles require repayment of the money advanced.

Table 7 shows the level of nominal spending on these and less significant ALPs, as well as spending on passive labor programs. In Hungary, passive labor programs include unemployment compensation, unemployment allowance, early retirement assistance, and a school leavers allowance. When Hungarian unemployment peaked in 1992-93, the share of expenditures devoted to ALPs declined to 18 percent and less, but the share in recent years has remained firmly above 20 percent. In Poland since 1991, the share of all labor programs expenditures devoted to ALPs has also declined to below 18 percent, but unlike in Hungary, in recent years ALPs have received a declining share of labor market support in Poland.

5. SAMPLE CONSIDERATIONS

The sample for analysis in Hungary was drawn from randomly selected samples in a strategically selected group of 10 counties: Budapest (the capital city), Baranya, Bekes, Borsod, Csongrad, Fejer, Hajdu-Bihar, Pest, Szabolcs, and Vas.[2] Map 1 shows the geographic distribution of the counties surveyed. These counties span the range of economic conditions. As can be seen in Table 8, three counties enjoy an unemployment rate below 8 percent, three suffer unemployment rates in excess of 15 percent, and four have unemployment rates in between.

Together the counties surveyed in Hungary comprise nearly two-thirds of the nation's population. These counties have a somewhat smaller proportion of employment in agriculture than does the nation as a whole largely due to the inclusion of the capital city, Budapest, in the sampling frame. Including Budapest also caused the population density to be higher, the mean unemployment rate to be lower, and the mean monthly wage to be higher in the areas surveyed relative to the nation as a whole. Among these counties, some have experienced steady labor market improvement since the peak of national unemployment in early 1993, while others have stagnated.

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[2] The sub-national provincial divisions in Hungary are called counties and in Poland are called voivods.

Administration of the questionnaires in Hungary was managed by experts in the National Labor Center (OMMK) and was conducted through house-to-house visits by staff of local labor centers during their off-work hours.

Data for evaluating ALPs in Poland was gathered by surveys of randomly selected participant samples and strategically selected comparison samples in a group of eight voivods: Gorzow, Katowice, Konin, Krakow, Lublin, Olsztyn, Poznan, and Radom. Map 2 shows the 49 voivod divisions within Poland, and the cross-hatched areas indicate the eight voivods in which surveys were conducted for this project. While these locations were chosen partly because of information processing similarities, they nonetheless span the range of labor market experience in Poland during the transition to markets.

Among the eight voivods surveyed, four are among Poland's most populous: Katowice, Krakow, Lublin, and Poznan. The eight encompass over one-quarter of the population of Poland, including several large cities, yielding a higher than average population density. These areas also have unemployment rates much lower, wages somewhat higher, and a smaller share of agriculture than the nation as a whole.

Administration of the questionnaires for surveys in Poland was managed by experts employed by the voivod and local labor offices

in the areas surveyed and was conducted by house-to-house visits by staff of local labor offices during their off-work hours.

5.1 Sample Size

In Hungary (where sample sizes were large enough), classical principles of experimental design were used for randomly drawing representative samples of program participants. Where the number of participants was too small for random sampling, the population was drawn. Comparison group samples were randomly drawn from the population of registered unemployed persons.

In Poland, the samples of program participants were also drawn using classical principles, but the comparison group samples were strategically drawn from the population of registered unemployed persons to increase the information available for estimating program impacts. Persons were selected for each ALP comparison group sample based on the characteristics of those randomly selected for the participant samples.

For both countries, the sample sizes were specified to be of sufficient size to ensure the precision of the desired impact estimates. The sample sizes were set based on considerations of power tests for observing effects of a size that would be of interest to policy makers. That is, the samples were set to be large enough to reject the null hypothesis of no effect with sufficient power to accept the alternative

that an intervention is efficacious. Furthermore, the sample sizes were specified to be of sufficient size to provide reliable estimates of differential program impacts on important demographic and regional subgroups.

The main program outcome guiding sample size determination was the duration of unemployment, and samples were set to be of sufficient size to detect program impacts of one week or more. These judgements were made on the basis of effect sizes estimated in earlier net impact analysis studies done in Hungary by Godfrey, Lázár, O'Leary (1993) and O'Leary (1997) and on the power tables given by Cohen (1988).

5.2 Selecting Samples

In Hungary, program participant groups were drawn from the outflow of program participation occurring in the second quarter (Q2) of 1996. There was random sampling from the outflow where sample sizes were large enough, with random draws made by birth date. Where samples were small, as for self-employment assistance, the population was drawn. To spread the burden of conducting interviews, the samples were evenly distributed across the counties, so that about 10 percent for each program came from each county.

The Hungarian comparison group was randomly selected, using birth dates, from the 10 counties from the inflow to the

unemployment register during the Q2 1995. As for participant samples, they were drawn to be about the same size in each county so as to evenly spread the burden of the survey work; that is, about 10 percent of the total sample for each program was drawn in each county. It was judged that Q2 1995 was about the time that most people drawn for the participant samples also flowed into the register.

In Poland, ALP entry during the whole of 1995 was taken as the sampling frame. Among ALP participants, there was random sampling, with random draws made by birth date. Where samples were small, as for self-employment assistance, the proportion randomly sampled from the population was larger. Sample sizes in each voivod were set to be in proportion to the number of program participants in the voivod. After the participant samples were selected, the observable exogenous characteristics of the groups selected were examined.

To increase the usable information for estimating program impacts in Poland, the comparison group samples were drawn from the population of registered unemployed persons by matching persons in each of the ALP participant samples to the most similar person from the unemployment register of the same local labor office. Separate comparison group samples for each program were selected from a sample of persons who registered as unemployed within the

same time period, who never used active labor programs other than the employment service, and were matched one-to-one with participants using a matched-pairs algorithm based on observable characteristics.[3] Surveys were conducted in 8 voivods and 80 local areas within these voivods. This spread the burden of survey taking somewhat. Surveys were conducted between February and April of 1997. A relatively accurate nationally representative sample resulted.

5.3 Conformance to Sample Design

The National Labor Center in Hungary, working together with the 10 county labor centers involved, developed the sampling frame for selecting interview candidates. From the sampling frame, specific sample sizes for each of the four ALPs were determined, together with the sample size for comparison group members.

Because of the great distinctions identified in gross outcome analysis provided by the performance indicators monitoring system, retraining was divided into two categories: group and individual.[4] Sample design and evaluation was therefore planned for five

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[3] Matching was done by the minimum sum of squared distance measure described in O'Leary (1997).

[4] An overview of the performance management system for active labor programs in Hungary is given in O'Leary (1995).

participant groups plus the ES. Table 9 lists the designed sample sizes and the actual number of respondents interviewed for each of the five ALPs in each of the 10 counties in Hungary. While there were differing response rates across counties, the overall response rates for each program averaged about 80 percent. Response rates above 80 percent provide a high degree of reliability that properly designed samples accurately reflect population behavior.

Table 10 provides a summary of survey response rates in Hungary across all counties for the comparison group and the combined ALPs. The response rate for the comparison group of 76.5 percent is somewhat below the 81.4 percent experienced for the ALPs, but both response rates are in the acceptable range.

The National Labor Office in Poland, working together with the eight voivod labor offices involved, developed the sampling frame for selecting interview candidates. From the sampling frame, specific sample sizes for each of the four ALPs were determined, together with the sample size for comparison groups. Table 11 lists the designed sample sizes and the actual number of respondents interviewed for each of the four ALPs in each of the 10 voivods. While there were differing response rates across voivods, overall response rates for each program averaged around 93 percent. Response rates this high are rare. Properly computed estimates from

these samples have a very high probability of accurately reflecting population behavior.

Table 12 provides a summary of survey respondent totals across each voivod for each of the separate ALP participant and comparison groups in Poland, showing the very close matching of sample sizes for participants and comparison groups within voivods. Overall among the comparison groups in Poland the response rate was 95.5 percent (7,169 out of 7,507), while among participant groups the response rate was 92.6 percent (7,174 out of 7,749). The original sample targets were 7,500 for the participant and comparison groups. More supplementary observations were added for the participant samples. Workers conducting the house-to-house surveys in Poland made as many as three return visits to complete an interview. Clearly, the survey workers were successful at achieving high response rates.

6. CHARACTERISTICS OF THE SAMPLES INTERVIEWED

Table 13 presents simple comparisons of the various participant samples from Hungary on the following important characteristics: age, gender, education, activity prior to registering as unemployed, occupational category, and household characteristics. Table 14 provides descriptions of the descriptive and outcome variables. Table 15 is similar to Table 13 except that under the ALP program

headings, the mean difference from the comparison group is given rather than the program mean.

From Table 15 it is easy to see strong evidence that ALP participants in Hungary were not randomly selected from the pool of registered unemployed. Retraining participants tend to be significantly younger, more female, more educated, and more likely to be school leavers. Wage subsidy recipients are no different in age and gender, but are better schooled and have more recent work experience. PSE participants are somewhat older, more male, and less well schooled. The self-employed are older, more male, better educated, and with more recent work experience. The only group more likely to be in blue-collar occupations than the comparison group are the PSE participants.

For Poland, Table 16 provides a list of the descriptive characteristics used to examine the samples. The following are the important characteristics: age, gender, education, occupational category, prior earnings, physical disability status, and household characteristics.

Table 17 is presented in four separate pages, one for each of the four Polish ALPs considered. On each page the first column lists the means of the descriptive characteristics of the relevant comparison group as selected by matched pairs before surveys were conducted.

The second column gives the mean of the participant group for each characteristic. The third column gives the difference computed as the participant mean minus the comparison group mean. The fourth column provides a statistical measure of significance for the difference.

From Table 17 it can be seen that the matching prior to conducting the surveys was done quite well in Poland. There are very few exogenous characteristics on which there are differences for any of the programs. Among the 24 characteristics listed, for retraining there are only three significant differences, which is far less than might be expected were the two samples randomly drawn from the same population. For Public Works there are somewhat more differences, but none on the basic age, gender, and education variables which formed the core of the matching process. For intervention works there are only five significant differences. For self-employment there are nine significant differences, but again these are outside the core matching factors.

7. PRELIMINARY IMPACT ESTIMATES

7.1 Unadjusted Impacts of ALPs in Hungary

In most countries with ALPs, several different types are operated because each ALP has a distinct objective. The overriding goal of most ALPs is to secure regular unsubsidized employment at good wages. The main outcome examined by impact analysis in this study

is obtaining a "normal unsubsidized job." To measure differential job quality, impacts on reemployment earnings were estimated. In future analysis of the survey results, we will also try to estimate the associated impact on the budget of passive labor programs such as unemployment compensation. Impacts on other particular program outcomes will also be estimated. For example, secondary employment impacts from self-employment programs that result when new entrepreneurs hire others will be examined.

For Hungary, preliminary estimates of the impact of ALPs are presented in Table 18 for two outcome measures. The first outcome is EMPLOYED, which is an indicator for whether or not a survey respondent has returned to work since participating in an ALP, or for comparison group members whether there has been a return to work since registering as unemployed. The table indicates that by the survey date in April 1997, 54 percent of the comparison group had returned to work. With the exception of public service employment, participants in ALPs tended to return to work at a higher rate. By this estimate, return to work was 2 percentage points higher for group retraining participants (though not statistically significant), 9 points higher for individual retraining participants, 17 points higher for wage subsidy recipients, and 39 points higher for self-employment

assistance recipients; the rate was 19 points lower for PSE participants.

Among those who became reemployed, with the exception of self-employment assistance recipients, earnings of ALP participants were higher than for the comparison group by about 10 percent.

These are preliminary unadjusted estimates for Hungary. As reported in O'Leary (1997), selection into ALPs in Hungary is not random, so that simple comparisons of ALP participants to a random sample of registered unemployed can be misleading. After examining unadjusted treatment impacts for Poland, we reexamine program impact estimates for Hungary while accounting for observable differences in samples.

7.2 Estimated Impacts of ALPs in Poland

The two outcomes examined in estimating ALP impacts in Poland were EMPLOYED, which means a job was started sometime after leaving an ALP or, for comparison group members, after registering as unemployed, and EARNINGS, which is average monthly earnings in new zloty on the most recent job. In future analysis of the survey results, we will also try to estimate the associated impact on the budget of passive labor programs such as unemployment compensation. Impacts on other particular program outcomes will also be estimated. For example, secondary

employment impacts from self-employment programs that result when new entrepreneurs hire others will be examined.

Preliminary estimates of the impact of ALPs in Poland are presented in Table 19 for the two outcome measures described above. Scanning down the first column, the variation in reemployment rates across comparison groups can be seen. The comparison group reemployment rate for retraining, public works, and intervention works all hover around 50 percent, while the rate for the self-employment comparison group is 66 percent. The preliminary impact estimates suggest that retraining increases the employment probability by 12 percentage points, intervention works by 26 points, and self-employment by 31 points; public works reduces the reemployment rate by 8 percentage points.

These are preliminary estimates and, while based on matched pairs analysis because of the sampling design used in Poland, still only reveal aggregate differences. Future analysis will examine other outcomes, other methods of estimation, regional differences, other demographic differences, and the importance of quality differences in ALP services.

The structure of the samples gathered in Poland also permits a preliminary examination of the effectiveness of the employment service (ES). Again, this preliminary analysis is very crude. It does

not examine the importance of the many different ES services offered and used. The program instrument is simply whether or not any ES service was used. Preliminary impact estimates for the ES are presented in Table 20. All results reported in Table 20 were computed on various groupings of the comparison samples, since members of these samples did not use other ALPs.

The first row of Table 20 reports the mean reemployment rate for those in the full combined comparison sample who did not use any service of the ES as being 50 percent. Also reported is the result that comparison group members who did use the ES had a statistically significant 5 percentage point greater reemployment rate. The remaining estimates of ES effects were estimated within the separate sample comparison groups. Two of the ALP participant groups benefitted significantly from the ES, and while the estimates from the other comparison samples are not statistically significant, they are positive. Future analysis of the effect of the ES will estimate interaction effects between the ES and the ALPs. This will involve combining participant and comparison samples. It will provide evidence about whether benefits of the ES are separable from ALPs and therefore additive, or whether a substitution or a synergy results.

7.3 Adjusted Impact Estimates for Hungary

Because there are great differences in the objective observable characteristics of program participants and the comparison group in Hungary, it is likely that in the absence of any labor market assistance the reemployment rates for the groups would differ significantly. As a first attempt to adjust for the wide differences in characteristics, the methods of O'Leary (1997) will be used. These methods are regression adjustment and matched pairs. Results from applying these methods are presented in Table 21.

In addition to the ALPs examined in Section 7.1, Table 21 also involves consideration of the influence of the employment service. Since many participants in ALPs also used services of the ES, it is important to estimate the independent effects of the ES and the other ALPs. Table 22 lists the variables used as controls in computing regression adjusted net impacts. Table 23 lists the factors on which observations were matched to construct similar comparison groups.

With the exception of individual retraining, the adjusted impacts appear different from the unadjusted impact estimates. In all cases, the matched pairs, regression adjusted, and regression adjusted with ES interaction impact estimators yielded similar results. It is impossible to generalize at this preliminary stage of analysis, but there is clear evidence that accounting for sample selection is

important. Also important to note is a possible type of program management behavior opposite the "creaming" reported by O'Leary (1997). It appears that targeting to hard-to-serve persons may be going on. This issue requires further study, but the targeting may be due in part to the performance management system operating in Hungary (see O'Leary, 1995).

Impact estimates for the ES in Hungary are presented in Table 24. The first row reports the mean reemployment rate for those in the comparison sample who did not use any service of the ES as being 48 percent. Also reported is the result that comparison group members who did use the ES had a 10 percentage point greater reemployment rate. The remaining estimates of ES effects were estimated in regression models with the ALP and ES interacted. All but one of the ALP participant groups benefitted significantly from the ES. Furthermore, the effect appeared to be independent or "separable" from the ALP reemployment effect.

8. SUMMARY AND PLAN FOR FURTHER ANALYSIS

Surveys of active labor program (ALP) participants and comparison groups were responsibly performed in Hungary and Poland. They have yielded a wealth of information about the effectiveness of ALPs. Preliminary analysis suggests positive

impacts of most ALPs and additive benefits from use of the employment service (ES) in both countries.

Strong evidence of non-random assignment to programs means that great care should be used in interpreting the preliminary results, and that further examination of the findings is absolutely necessary. Some attempt to adjust impact estimates has been done using the data for Hungary. Supplementary data is needed from Poland to assess exactly how representative the comparison groups are of the general population of registered unemployed.

Future analysis of the survey results should also examine other measures of labor market success. Various measures of employment and earnings should be studied. These might include a broader employment definition which embodies subsidized work, and earnings at various times during the reemployment experience. Also, the timing and durability of reemployment should be studied.

The reemployment impacts of the employment service (ES), which has a unique nature among ALPs in that it closely interacts with all other reemployment efforts, should be more closely examined. Not only the interactions, but the multidimensional nature of the ES itself might be revealed. The ES provides a variety of distinct services including: skills assessment, resume preparation, job search training, job clubs and job interview referral. Effects of each

of these might be investigated. Similarly, other ALPs are not homogenous. To the extent possible, future investigations will estimate the impacts of various ALP dimensions. It will be practical to examine program duration, participant group size, and provider industrial sector.

In addition to studying the influence of various components of ALPs, future work will also examine the effect of ALPs on different identifiable groups of program participants. Subgroup analysis will be done on groups defined by both demographic and geographic characteristics. Additionally, ALP impacts on potential policy target groups such as the long term unemployed will be studied.

The extent to which spending on ALPs conserves on passive labor support in terms of unemployment compensation and unemployment assistance will also be investigated. Estimating these quantities is crucial to the preparation of comprehensive benefit-cost assessments. Cross-program comparisons of cost effectiveness may then be offered.

Separate detailed country reports on the effectiveness of ALPs are being prepared for Hungary and Poland. These reports seek to fully exploit the available data, and fill the remaining gaps in the evaluation. A separate research group is preparing similar reports for the Czech Republic and Turkey. The final aim is a cross-country

report which summarizes evidence from four countries on what works for supporting the development of competitive labor markets in transition economies.

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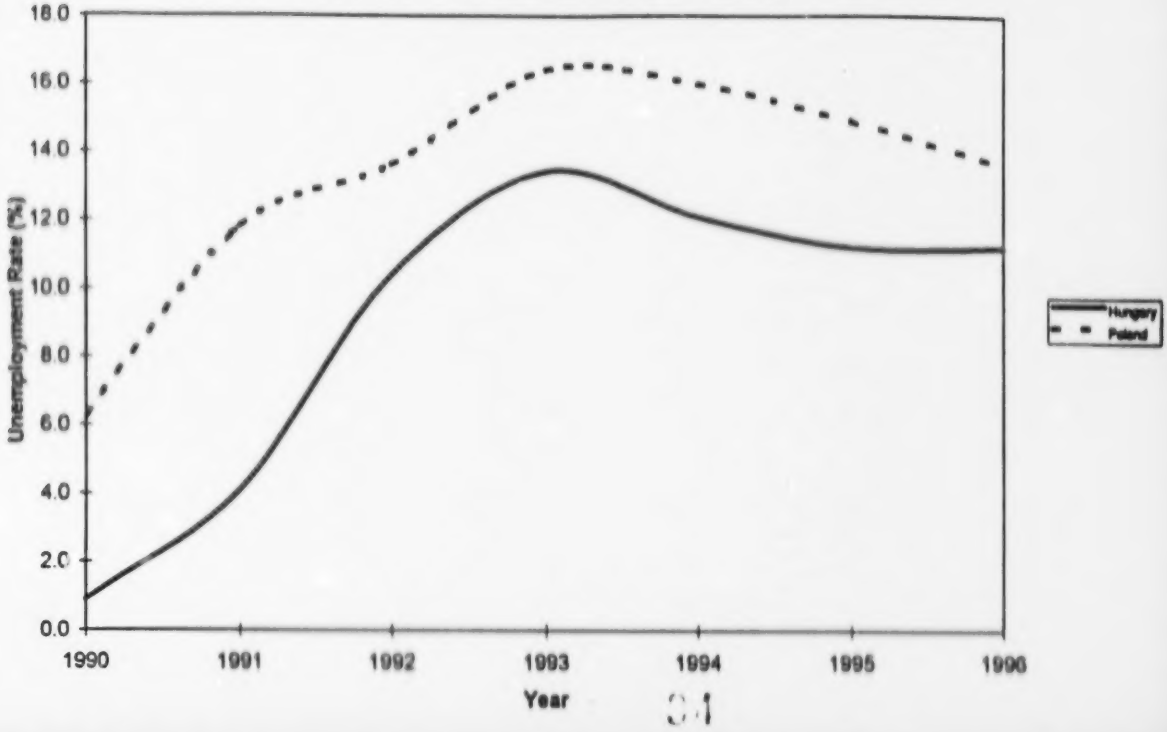
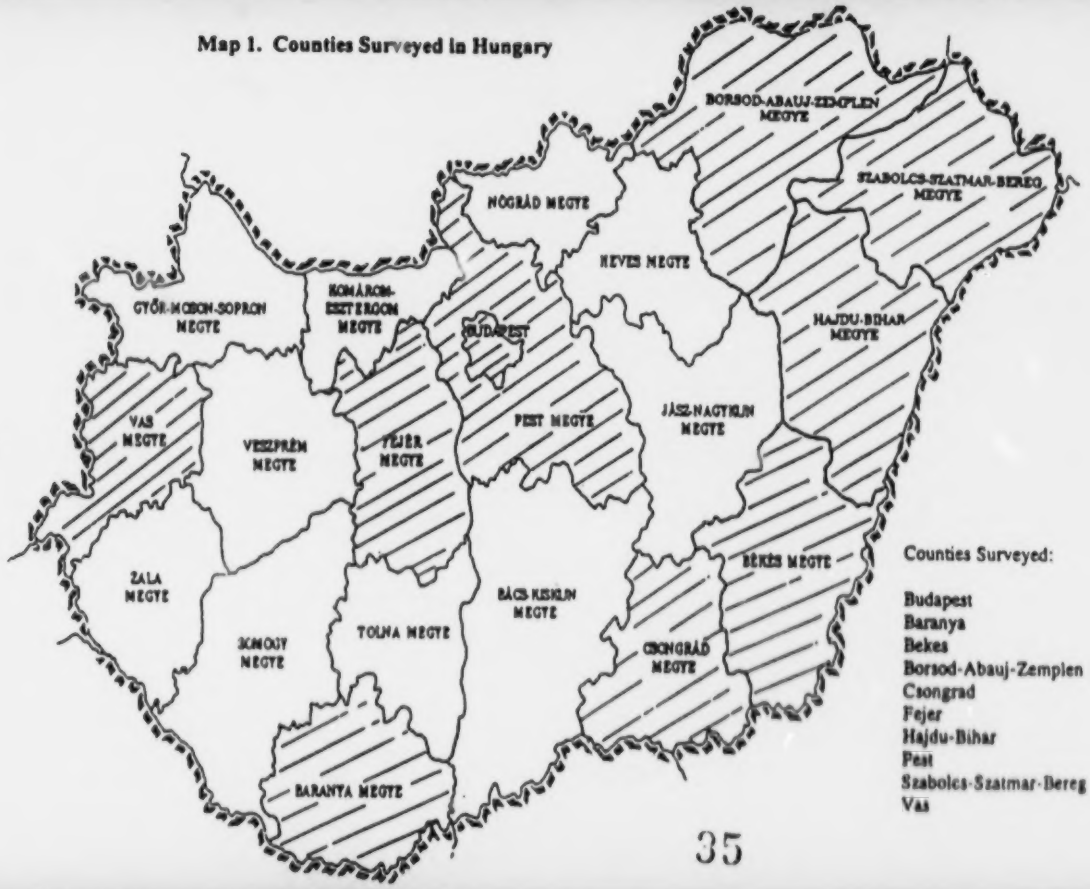
APPENDIX A
FIGURES, MAPS, AND TABLES

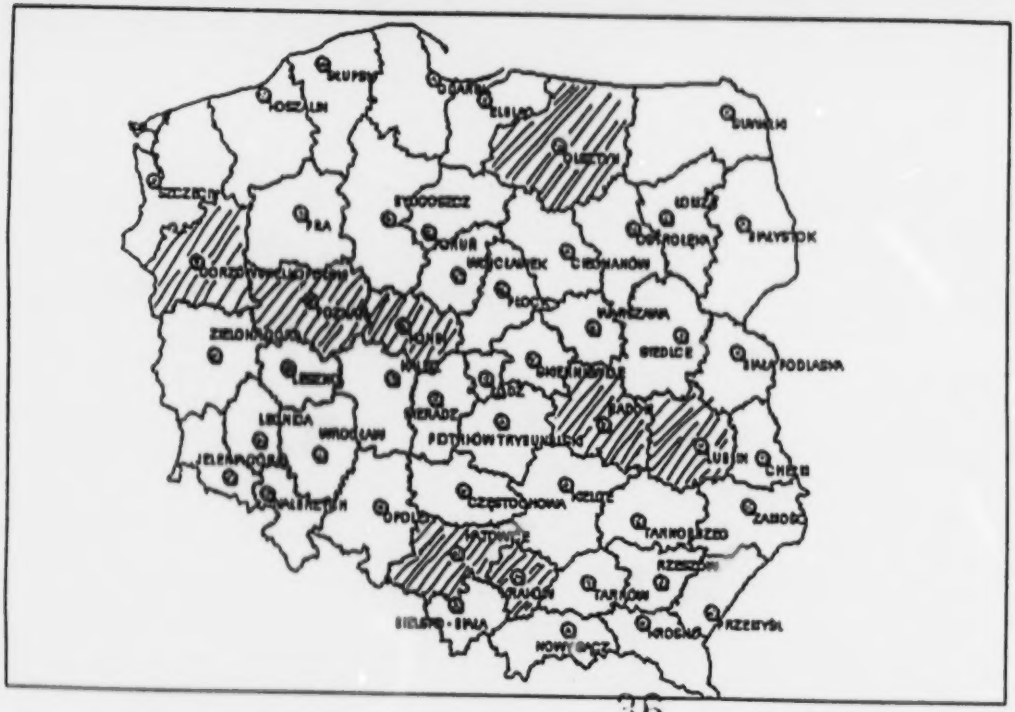
Figure 1
Unemployment Rate in Hungary and Poland, 1990-96



Map 1. Counties Surveyed in Hungary



Map 2. Voivods Surveyed in Poland



Voivods Surveyed: Gorzow, Katowice, Konin, Krakow, Lublin, Olsztyn, Poznan, and Radom

Table 1. Labor Market and Economic Conditions in Hungary and Poland, 1990-1996

	1990	1991	1992	1993	1994	1995	1996
Hungary							
Population (in thousands)	10,355	10,337	10,310	10,277	10,246	10,212	10,174
Labor force (in thousands)	5,520	5,531	5,353	5,024	4,705	4,553	4,474
Unemployment rate (percent)	0.9	4.1	10.4	13.4	12.1	11.2	11.2
GDP Index (previous year = 100)	96.5	88.1	96.1	99.2	102.9	101.5	101.0
Price Index (previous year = 100)	128.9	135.0	123.0	122.5	118.8	128.2	123.6
Poland							
Population (in thousands)	38,119	38,245	38,365	38,505	38,544	38,609	38,639
Labor Force (in thousands)	17,102	17,285	17,734	17,651	17,761	17,643	17,349
Unemployment Rate (percent)	6.3	11.8	13.6	16.4	16.0	14.9	13.6
GDP Index (previous year = 100)		92.4	100.8	103.8	105.2	107.0	106.0
Price Index (previous year = 100)	585.8	170.3	143.0	135.3	132.2	127.8	119.9

Source: Hungarian Central Statistical Office, Hungarian National Labor Center, Polish Central Statistical Office, and Polish National Labor Office.

Table 2. Active Labor Programs in Hungary and Poland

Active labor program	Hungary	Poland
Employment service	Yes	Yes
Retraining	Yes	Yes
Wage subsidy	Long-term unemployed	Intervention works
Public service employment	Yes	Public works
Self-employment assistance	Yes	Yes
Job creation investments	Yes	Yes
Work sharing	Yes	No
Early retirement subsidy	Yes	No

Table 3. Active Labor Wage Subsidy Programs in Hungary

Retraining	Occupational skill retraining may be provided to persons who are either unemployed, expected to become unemployed, or currently involved in public works. Unemployed recent school leavers may also qualify. Training support may include a supplement to earnings or a benefit in lieu of earnings equal to 110 percent of the unemployment compensation otherwise payable, plus reimbursement of direct costs.

Table 3 (continued)

Wage subsidy for hiring long-term unemployed	A wage subsidy of up to 50 percent is possible for up to one year. The payment is made directly to the employer and applies to total labor costs for hiring persons unemployed for more than 6 months (3 months for school leavers), provided the employer has not laid off anyone involved in the same line of work in the previous 6 months and after the assistance has ended, he further employs the unemployed persons for at least as long as he received assistance.
Public service employment	Workers hired for public maintenance and infrastructure projects or public social services may have direct costs of employment (wages, additional work tasks, work tools, working clothes, and transportation) subsidized by up to 70 percent from the Employment Fund, provided that the employer does no receive any net income as a result of the activity.
Self-employment assistance	Self-employment assistance is possible for persons who are eligible for unemployment compensation. The support may include up to six monthly payments of unemployment compensation beyond the basic one-year eligibility. Support may also include reimbursement of up to half the cost of professional entrepreneurial counseling services and half the cost of training courses required for engaging in the entrepreneurial activity. Up to half the premium on loan insurance for funds borrowed to start the enterprise may be paid for one year.
Employment service	The employment service is the central function of local labor centers. The local labor centers are one-stop-shopping places for reemployment assistance. These centers act as a unified clearinghouse for referral to a variety of active and passive support. The employment service offers a full range of placement services including job interview referral, counseling, skills assessment, job search training, resume preparation, and job clubs.

Table 4. Passive Labor Programs in Hungary

Unemployment compensation	Available to unemployed workers depending on work history over the previous four years. The maximum entitled duration of benefits is 12 months. The monthly benefit amount depends on previous earnings. During the first six months the benefit is 75% of prior earnings, and during the second six months the benefit is 60% of prior earnings. The unemployment benefit is paid for by a 3.9% tax that employers pay on total payrolls and a 1.5% tax paid by employees. Before 1996, there was also an unemployment benefit equal to the monthly unemployment assistance amount for recent school graduates. In 1995, there were an average of 185,000 unemployment compensation and recent school graduate beneficiaries. UC is administered by the system of labor centers.
Unemployment assistance	A monthly benefit available to unemployed exhaustees of regular unemployment compensation. Eligibility also depends on a means test. The maximum entitled duration is 24 months. The monthly benefit amount is uniform; in June 1996, the amount stood at 7780 HUF per month. UA benefits are financed from general governmental revenues. Beneficiaries who exhaust eligibility for UA may requalify for up to 3 months of regular unemployment compensation (UC) after six months of work, if the UC is exhausted, they may again become entitled to a means-tested two years of UA benefits. UA is administered by local government offices, not by labor centers.

Table 5. Active Labor Programs in Poland

Retraining	Occupational skill retraining may not exceed 12 months duration. It should be targeted to areas of skill shortages. Stipends up to 115 percent of the unemployment benefit may be paid. If trainees leave before completing a course of study, they must reimburse the costs of training.
Loans to the unemployed for self-employment	Loans may not exceed 20 times the national average monthly pay. If self-employment is continued for 24 months, 50 percent of the loan amount may be forgiven. The loan must be repaid immediately if the agreed-upon business plan is not pursued. Loan contracts are made at the prevailing interest rates.
Public works	Wage and social insurance costs may be paid for up to six months from the Labor Fund at a rate of up to 75 percent of the national average pay. Projects should be infrastructure investments and may be operated by municipal authorities or by local representatives of the national government. Projects may not compete with any existing business, and workers should be recruited through the Local Labor Offices. Areas with the highest unemployment rates have priority for Public Works projects.
Intervention works	Wage and social insurance costs may be paid for up to six months from the Labor Fund for an amount up to the level of unemployment compensation otherwise payable. Projects may not compete with private companies and may be undertaken only by companies which during the most recent six months did not lay off more than 10 percent of their workers. Wages and social insurance costs for workers retained beyond the first six months may be reimbursed for the subsequent six months up to a total of 150% of the national average monthly wage.

Table 5 (continued)

Employment service	The employment service is the central function of local labor offices. The local labor offices are one-stop-shopping places for reemployment assistance. These centers act as a unified clearinghouse for referral to a variety of ALPs and for unemployment compensation. The employment service offers a full range of placement services, including job interview referral, counseling, skills assessment, job search training, resume preparation, and job clubs.

Table 6. Passive Means of Assistance for Unemployed Workers in Poland

Unemployment compensation	Available to unemployed workers depending on work history over the previous year. To qualify for benefits a worker must have had a minimum of 180 days of work in the previous year. There is also a means test for eligibility: monthly income must be lower than 50% of the national minimum wage. Furthermore, weekly hours of work must be less than 20 hours. The maximum duration of benefits is 12 months. In local labor markets where the unemployment rate equals or exceeds 1.5 times the national average unemployment rate, the maximum duration of benefits is 18 months. The monthly benefit amount is fixed and uniform for all recipients. The level of the monthly benefit is reviewed each calendar quarter by the Minister of Labor and Social Policy and may be revised. In June of 1996 the monthly benefit stood at about 33% of the national average monthly wage. There is also a child dependents allowance equal to about 10% extra per child. The unemployment benefit is paid for with money from the Labor Fund. The Labor Fund is financed from two sources: 1) 35% of the Labor Fund in 1995 came from a 3% tax that employers pay on total payrolls, and 2) 65% of the Labor Fund came from

Table 6 (continued)

	general revenues of the state budget. In 1995 about 85% of the Labor Fund was spent on unemployment compensation (UC) and social insurance taxes for the unemployed, the remainder was spent on active labor programs. Since March 1996, recent school graduates are not eligible for unemployment compensation in the first 12 months after leaving school. Unemployment compensation beneficiaries also retain eligibility for national health insurance; this eligibility may be maintained even after exhausting benefits by continued monthly reporting as unemployed to the local labor office. In 1995 there were an average of about 1.3 million unemployment compensation beneficiaries per month. Since late 1995, the number of monthly beneficiaries steadily increased and reached a peak of 1.5 million per month in April 1996; the number has fallen gradually since. UC is administered by the system of labor offices.
General assistance	A monthly benefit available to unemployed exhaustees of regular unemployment compensation and others. Eligibility also depends on a means test. Average household income per family member must be lower than the minimum monthly public old-age pension. Benefits are financed from general governmental revenues. Eligibility is indefinite. General assistance is administered by local government offices, not by labor centers.

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Table 7. Spending on Active and Passive Labor Programs in Hungary and Poland, 1990-1996

	1990	1991	1992	1993	1994	1995	1996
Hungary							
ALP and PLP spending[a] (million HUF)	7,640	28,654	77,208	90,419	69,889	64,174	77,157
ALP share of spending	0.648	0.269	0.169	0.180	0.255	0.233	0.218
Retraining share	0.108	0.043	0.053	0.073	0.107	0.102	0.069
PSE share	0.051	0.019	0.021	0.034	0.064	0.068	0.087
Wage subsidies share		0.000	0.004	0.016	0.034	0.033	0.025
Self-employment share		0.001	0.003	0.006	0.008	0.003	0.003
Other ALP share	0.489	0.206	0.088	0.052	0.042	0.027	0.033
PLP share of spending	0.352	0.731	0.831	0.820	0.745	0.767	0.782
Price index (previous year = 100)	128.9	135.0	123.0	122.5	118.8	128.2	123.6
Poland							
ALP and UC spending[a] (million Pzl)	370	1,358	2,283	3,190	4,447	6,207	7,418
ALP share of spending	0.489	0.180	0.137	0.161	0.162	0.147	0.132
Retraining share	0.004	0.007	0.008	0.014	0.013	0.010	0.012
Public Works share			0.008	0.038	0.047	0.041	0.032
Intervention Works share	0.056	0.033	0.021	0.043	0.055	0.050	0.037
Self-employment loans share					0.008	0.007	0.008
Loans for employers share	0.260	0.030	0.010	0.017	0.005	0.004	0.003
Other ALPs share	0.169	0.110	0.090	0.050	0.035	0.034	0.039
UC share of spending	0.511	0.820	0.863	0.839	0.838	0.853	0.868
Price index (previous year = 100)	585.8	70.3	43	35.3	32.2	27.8	19.9

Source: National Labor Center, Budapest, and National Labor Office, Warsaw.

[a] ALP, active labor programs; PLP, passive labor programs; UC, unemployment compensation.

Table 8. Comparative Statistics for Provinces Surveyed

Hungary	Population from Census	Population share (%)	Population density	Unemployment rate April 1997 (%)	Employment in agriculture,	Average monthly wage 1996
Budapest	1,907	18.7	3,632	4.9	0.6	60,851
Baranya	409	4	93	13.6	10.2	43,888
Bekes	403	3.9	71	13.8	12.1	40,348
Borsod	746	7.3	103	19.7	5.6	41,432
Csongrad	427	4.2	100	9.3	9.6	42,794
Fejer	426	4.2	97	9.3	10.3	50,666
Hajdu-Bihar	460	4.5	89	15.5	10.1	42,458
Pest	985	9.6	154	7.4	7.0	45,899
Szabolcs	572	5.6	96	19.9	6.7	39,313
Vas	272	2.7	81	6.7	9.6	41,623
Total/Mean	6,606	64.7	137	10.2	5.3	49,863
Hungary	10,212	100	110	10.8	6.8	47,577

Poland	Population from Census	Population share (%)	Population density	Unemployment rate April, 1997	Employment in agriculture	Average monthly wage 1995
Gorzow	511	1.3	60	16.3	21	606
Katowice	3,925	10.2	590	7.7	6.4	860
Konin	480	1.3	94	16.9	41.7	724
Krakow	1,240	3.2	381	6.2	20.9	669
Lublin	1,027	2.7	151	11.5	36.8	647
Olsztyn	772	2.0	63	22.6	23.9	618
Poznan	1,354	3.5	166	5.2	14.4	669
Radom	763	2.0	105	16.9	46.3	589
Total/Mean	10,072	26.1	174	10.3	19.1	731
Poland	38,609	100	123	13	26.9	691

Table 8 (continued)

Sources: National Labor Center and CSO, Budapest; National Labor Office and CSO, Warsaw.

* In HUF for Hungary; in Pzl for Poland.

Table 9. Sample Design and Survey Response in Hungary

County	Sample	Responses	Rate	Sample	Responses	Rate	Sample	Responses	Rate
	Group Training			Individual Training			Wage Subsidy		
Budapest	76	50	65.8	229	153	66.8	106	61	57.5
Baranya	159	133	83.6	175	138	78.9	199	114	57.3
Bekes	213	180	84.5	130	115	88.5	149	117	78.5
Borsod	161	107	66.5	109	88	80.7	248	212	85.5
Csongrad	221	155	70.1	182	117	64.3	133	110	82.7
Fejer	141	127	90.1	200	162	81.0	125	112	89.6
Hajdu	146	124	84.9	151	126	83.4	114	103	90.4
Pest	176	148	84.1	167	137	82.0	47	40	85.1
Szabolcs	210	193	91.9	113	101	89.4	176	154	87.5
Vas	119	104	87.4	99	85	85.9	141	108	76.6
Total	1,546	1,321	85.4	1,555	1,222	78.6	984	839	78.7
	Public Service Employment			Self-employment			Comparison Group		
Budapest	138	70	50.7	157	102	65.0	502	296	59.0
Baranya	128	101	78.9	89	77	86.5	400	312	78.0
Bekes	117	106	90.6	153	132	86.3	394	303	76.9
Borsod	178	157	88.2	180	162	90.0	520	434	83.5
Csongrad	115	96	83.5	100	80	80.0	353	245	69.4
Fejer	144	127	88.2	98	85	86.7	399	302	75.7
Hajdu	180	169	93.9	134	121	90.3	482	393	81.5
Pest	142	119	83.8	129	119	92.2	479	385	80.4
Szabolcs	150	143	95.3	102	92	90.2	499	422	84.6
Vas	64	52	81.3	115	97	84.3	387	246	63.6
Total	1,090	969	84.1	1,257	1,067	84.9	4,415	3,338	75.6

Table 10. Sample Sizes and Survey Response Rates in Hungary

County	ALPs sample	ALPs responses	Response rate	Comparison sample	Comparison responses	Response rate
Baranya	750	563	75.1	400	312	78.0
Bekes	762	650	85.3	394	303	76.9
Borsod	876	726	82.9	520	434	83.5
Csongrad	751	558	74.3	353	245	69.4
Fejer	708	613	86.6	399	302	75.7
Hajdu	725	643	88.7	482	393	81.5
Pest	661	563	85.2	479	385	80.4
Szabolcs	751	683	90.9	499	422	84.6
Vas	538	446	82.9	387	246	63.6
Total	7,228	5,881	81.4	4,415	3,338	75.6

Table 11. Sample Selection Process in Poland

Voivod	Retraining			Intervention Works			Public Works			Loans		
	Number part.	Sample size	Number resp.	Number part.	Sample size	Number resp.	Number part.	Sample size	Number resp.	Number part.	Sample size	Number resp.
Gorzów	1,107	173	170	3,532	263	260	2,710	197	180	129	97	80
Katowice	7,875	1,142	1,120	7,350	628	620	1,266	143	120	207	131	120
Konin	1,064	150	150	2,928	215	215	1,216	92	90	99	73	70
Kraków	818	139	130	1,768	136	128	675	67	50	89	64	60
Lublin	2,825	470	438	4,025	294	281	1,811	138	119	212	120	104
Olsztyn	2,120	523	435	6,721	503	453	6,207	410	360	190	122	105
Poznań	2,461	301	296	2,737	149	143	1,388	110	86	132	82	72
Radom	773	146	140	4,422	320	312	2,437	216	169	148	135	98
Total	19,514	3,044	2,879	33,483	2,508	2,412	17,705	1,373	1,174	1,189	824	709
Poland	81,821			184,025			113,093			6,737		
Response rate			0.946									

Table 12. Participant Group and Matched Comparison Group Sample Sizes

Voivod	Retraining		Public Works		Intervention Works		Self Employment	
	Participant	Comparison	Participant	Comparison	Participant	Comparison	Participant	Comparison
Gorzow	170	170	180	180	260	260	80	80
Katowice	1120	1120	120	120	620	620	120	120
Konin	150	150	90	90	215	215	70	70
Krakow	130	129	50	50	128	129	60	58
Lublin	438	446	112	119	281	292	104	112
Olsztyn	435	440	378	360	453	427	105	94
Poznan	296	295	89	86	143	148	72	68
Radom	140	135	169	169	312	319	98	98
Total	2,879	2,885	1,188	1,174	2,412	2,410	709	700

Table 13. Means of Characteristics for ALP Participant Samples for Hungary

Descriptive characteristics	Comparison group	Group retraining	Individual retraining	Wage subsidy	Public service employment	Self-employment
PRIORWAGE	15,170	11,138	12,064	12,828	12,646	26,838
AGE	33.91	27.93	27.83	33.79	36.20	36.44
MALE	0.56	0.48	0.49	0.56	0.66	0.62
PRIMARY	0.35	0.24	0.16	0.26	0.47	0.08
SECONDARY	0.41	0.24	0.29	0.43	0.30	0.38
VOCATIONAL	0.21	0.46	0.49	0.27	0.20	0.43
COL-UNIV	0.03	0.06	0.06	0.04	0.03	0.11
WASWORKING	0.22	0.02	0.06	0.80	0.63	0.74
WASUNEMP	0.67	0.63	0.58	0.18	0.35	0.26
WASSCHOOL	0.09	0.29	0.32	0.02	0.02	0.00
WASOTHER	0.02	0.07	0.04	0.00	0.00	0.00
BLUECOLLAR	0.86	0.82	0.81	0.94	0.94	0.69
MARRIED	0.62	0.40	0.41	0.60	0.59	0.82
KIDS_LE6	0.32	0.30	0.24	0.25	0.31	0.37
DEPENDENTS	0.78	0.80	0.72	0.82	0.87	0.86
Sample size	3,338	1,321	1,222	131	1,140	1,067

Table 14. Descriptive Variables for Participants in Hungarian Active Labor Programs

Variable	Description
PRIORWAGE	Average monthly earnings before unemployment
AGE	Age in years as of April 1, 1997
MALE	Gender: male=1, female=0
PRIMARY	Education level, less than 8 classes: 1=yes, 0=no
SECONDARY	Education level, vocational: 1=yes, 0=no
VOCATIONAL	Education level, secondary: 1=yes, 0=no
COL-UNIV	Education level, higher education: 1=yes, 0=no
WASWORKING	Earlier employment status, employed: 1=yes, 0=no
WASUNEMP	Earlier employment status, lost employment: 1=yes, 0=no
WASSCHOOL	Earlier employment status, school leaver: 1=yes, 0=no
WASOTHER	Earlier employment status, other: 1=yes, 0=no
BLUECOLLAR	Occupation of wanted job, blue collar: 1=yes, 0=no
MARRIED	Spouse living in same household: 1=yes, 0=no
KIDS_LE6	Number of children in household age 0-6
DEPENDENTS	Number of children in household age 6+ plus other dependents

Table 15. Unadjusted Differences from the Comparison Group Mean for ALPs in Hungary

Descriptive characteristics	Comparison group	Group retraining	Individual retraining	Wage subsidy	Public service employment	Self-employment
PRIORWAGE	15,170	-4,033**	-3,107**	-2,342**	-2,524**	11,668**
AGE	33.91	-5.98**	-6.08**	-0.12	2.29**	2.53**
MALE	0.56	-0.08**	-0.07**	0.00	0.10**	0.06**
PRIMARY	0.35	-0.10**	-0.19**	-0.08**	0.12**	-0.27**
SECONDARY	0.41	-0.17**	-0.12**	0.02	-0.11**	-0.03
VOCATIONAL	0.21	0.25**	0.27**	0.05**	-0.01	0.22**
COL-UNIV	0.03	0.03**	0.03**	0.01**	0.00	0.08**
WASWORKING	0.22	-0.20**	-0.16**	0.58**	0.41**	0.52**
WASUNEMP	0.67	-0.04**	-0.09**	-0.49**	-0.32**	-0.41**
WASSCHOOL	0.09	0.20**	0.23**	-0.07**	-0.07**	-0.09**
WASOTHER	0.02	0.05**	0.02**	-0.02**	-0.02**	-0.02**
BLUECOLLAR	0.81	-0.20**	-0.22**	-0.04**	0.08	-0.19**
MARRIED	0.62	-0.22**	-0.21**	-0.02	-0.03**	0.20**
KIDS_LE6	0.32	-0.02	-0.09**	-0.08**	-0.01	0.05**
DEPENDENTS	0.78	0.03	-0.05*	0.05	0.09**	0.08**
Sample size	3,338	1,321	1,222	1,131	1,140	1,067

** Difference significant at the 95 percent level of confidence in a two-tailed test.

* Difference significant at the 90 percent level of confidence in a two-tailed test.

Table 16. Descriptive Characteristics and Outcome Measures for Poland Data

Variable	Description
EARNPRE	Average earnings before registering
MALE	Respondent is male: 1=yes, 0=no
AGE	Age at survey completion date, in years
EDELEM	8 years or less schooling: 1=yes, 0=no for all in this
EDVOC1	category
EDVOC2	Basic vocational school
EDGYM	Completed secondary vocational school
EDCOLL	Completed general secondary school
	Some higher education
OCCMGR	Last job top manager: 1=yes, 0=no for all in this category
OCCPROF	Last job specialist/professional
OCCTECH	Last job technician w/out university degree
OCCSERVE	Last job service worker
OCCSKILL	Last job skilled work
OCCUNSKL	Last job unskilled work
OCCCLERK	Last job clerk/administrator
PHYSDIS	Respondent has a physical disability: 1=yes, 0=no

Table 16 (continued)

Variable	Description
HHSIZE	Number of people living w/respondent
SPOUSEHM	Spouse lives with you: 1=yes, 0=no
SPEMPL	Spouse is employed or self-emp: 1=yes, 0=no
OTHEREMP	Number of other employed members of household
DEPEND1	Number of people dependent economically on respondent
DEPEND2	Number of dependents under 18 or pensions
LOOKWORK	Number of other household members not working but looking for work
EARN5	Average gross monthly household earnings excluding respondent
OUTCOME MEASURES:	
EMPLOYED	Started a new non-subsidized job since ALP or registration: 1=yes; 0=no
EARNINGS	Average gross monthly earnings on the most recent job

Table 17A. Treatment/Comparison Group Differences for Retraining in Poland

Variable	Comparison group	Retraining	Difference	t-Statistic on difference
EARNPRE	329	348	19	1.56
MALE	0.67	0.68	0.00	0.31
AGE	22.93	22.99	0.06	0.40
EDELEM	0.04	0.04	0.00	0.09
EDVOC1	0.27	0.26	-0.01	0.61
EDVOC2	0.44	0.44	0.00	0.02
EDGYM	0.23	0.23	0.00	0.42
EDCOLL	0.03	0.03	0.00	0.41
OCCMGR	0.00	0.00	0.00	0.34
OCCPROF	0.02	0.02	0.00	0.19
OCCTECH	0.03	0.02	-0.01	1.51
OCCSERVE	0.07	0.06	-0.01	0.96
OCCSKILL	0.11	0.11	0.00	0.24
OCCUNSKL	0.06	0.07	0.01	1.27
OCCCLERK	0.04	0.06	0.02**	3.50
PHYSDIS	0.01	0.01	0.00	0.28
HHSIZE	3.08	3.03	-0.06	1.56
SPOUSEHM	0.60	0.56	-0.04**	1.93
SPEMPL	0.80	0.78	-0.03	1.29
OTHEREMP	1.32	1.31	-0.01	0.23
DEPEND1	0.35	0.37	0.02	0.87
DEPEND2	0.86	0.84	-0.03	0.98
LOOKWORK	0.19	0.18	-0.00	0.25
EARN5	516	564	48**	2.78

** Statistically significant at the 95 percent confidence level in a two-tailed test.

* Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 17B. Treatment/Comparison Group Differences for Public Works in Poland

Variable	Comparison group	Retraining	Difference	t-Statistic on difference
EARNPRE	312	342	31	3.94
MALE	0.15	0.15	0.01	0.40
AGE	29.11	29.02	-0.09	0.22
EDELEM	0.41	0.41	0.00	0.07
EDVOC1	0.46	0.46	0.00	0.14
EDVOC2	0.10	0.10	0.00	0.12
EDGYM	0.02	0.02	0.00	0.40
EDCOLL	0.01	0.01	0.00	0.15
OCCMGR	0.00	0.00	0.00	0.01
OCCPROF	0.00	0.00	0.00	0.73
OCCTECH	0.01	0.02	0.01*	1.70
OCCSERVE	0.06	0.02	-0.04**	5.62
OCCSKILL	0.45	0.31	-0.15**	7.43
OCCUNSKL	0.27	0.51	0.24**	12.12
OCCCLERK	0.03	0.05	0.02**	2.33
PHYSDIS	0.02	0.01	-0.02**	3.47
HHSIZE	3.13	3.34	0.21**	3.05
SPOUSEHM	0.70	0.70	0.00	0.02
SPEMPL	0.48	0.43	-0.05	1.57
OTHEREMP	0.78	0.83	0.05	1.23
DEPEND1	0.90	1.07	0.18**	2.95
DEPEND2	1.24	1.39	0.15**	2.80
LOOKWORK	0.32	0.36	0.04*	1.68
EARN5	427	451	24	1.13

** Statistically significant at the 95 percent confidence level in a two-tailed test.
* Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 17C. Treatment/Comparison Group Differences for Intervention Works in Poland

Variable	Comparison group	Retraining	Difference	t-Statistic on difference
EARNPRE	295	308	13	1.27
MALE	0.59	0.59	0.00	0.24
AGE	23.36	23.35	-0.01	0.06
EDELEM	0.09	0.08	0.00	0.37
EDVOC1	0.49	0.49	0.01	0.38
EDVOC2	0.35	0.35	0.00	0.10
EDGYM	0.06	0.05	0.00	0.51
EDCOLL	0.01	0.01	0.00	0.13
OCCMGR	0.00	0.00	0.00	0.58
OCCPROF	0.01	0.01	0.00	0.15
OCCTECH	0.02	0.03	0.01**	2.55
OCCSERVE	0.12	0.12	0.01	0.65
OCCSKILL	0.20	0.24	0.04**	3.08
OCCUNSKL	0.11	0.12	0.01	1.38
OCCCLERK	0.03	0.05	0.02**	3.84
PHYSDIS	0.01	0.00	-0.01**	2.40
HHSIZE	3.27	3.24	-0.02	0.52
SPOUSEHM	0.60	0.59	-0.01	0.56
SPEMPL	0.69	0.73	0.03	1.49
OTHEREMP	1.15	1.18	0.03	0.97
DEPEND1	0.49	0.50	0.01	0.36
DEPEND2	1.07	1.07	0.01	0.22
LOOKWORK	0.26	0.25	-0.01	0.72
EARN5	520	573	53**	2.85

** Statistically significant at the 95 percent confidence level in a two-tailed test.

* Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 17D. Treatment/Comparison Group Differences for Self-employment in Poland

Variable	Comparison group	Retraining	Difference	t-Statistic on difference
EARNPRE	351	376	25	1.25
MALE	0.42	0.40	-0.03	0.96
AGE	34.04	33.92	0.11	0.27
EDELEM	0.10	0.11	0.01	0.35
EDVOC1	0.43	0.43	0.00	0.10
EDVOC2	0.38	0.38	0.00	0.02
EDGYM	0.05	0.05	0.00	0.30
EDCOLL	0.03	0.03	0.00	0.10
OCCMGR	0.01	0.01	0.00	0.61
OCCPROF	0.03	0.03	0.00	0.12
OCCTECH	0.06	0.05	-0.01	1.01
OCCSERVE	0.13	0.20	0.07**	3.80
OCCSKILL	0.34	0.28	-0.06**	2.47
OCCUNSKL	0.18	0.11	-0.06**	3.37
OCCCLERK	0.10	0.10	0.01	0.54
PHYSDIS	0.02	0.01	-0.01	1.62
HHSIZE	2.89	3.03	0.14*	1.79
SPOUSEHM	0.87	0.91	0.05**	2.56
SPEMPL	0.72	0.66	-0.07**	2.34
OTHEREMP	0.55	0.47	-0.08*	1.84
DEPEND1	1.25	1.64	0.40**	5.68
DEPEND2	1.34	1.50	0.16**	2.69
LOOKWORK	0.18	0.16	-0.02	0.85
EARN5	439	419	20	0.61

** Statistically significant at the 95 percent confidence level in a two-tailed test.
* Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 18. Unadjusted Impacts of ALPs on Employment and Earnings in Hungary

Outcome	Comparison group	Group retraining	Individual retraining	Wage subsidy	Public service employment	Self-employment
EMPLOYED[a]						
Means	0.54	0.56	0.62	0.71	0.35	0.93
Difference		0.02	0.09**	0.17**	-0.19**	0.39**
EARNINGS[b]						
Means	18,202	20,237	20,205	20,74	18,952	13,045
Difference		2,035**	2,003**	0*	750*	-5,157**
				2,538*		
Sample size	3,338	1,321	1,222	1,131	1,140	1,067

** Difference significant at the 95 percent confidence level in a two-tailed test.

* Difference significant at the 90 percent confidence level in a two-tailed test.

[a] EMPLOYED - Started a new non-subsidized job or self employment after registering as unemployed or completing participation in an active labor program (ALP).

[b] EARNINGS - Starting average monthly earnings on the first new non-subsidized job or self employment after registering as unemployed or completing participation in an active labor program (ALP).

Table 19. Unadjusted Impacts of ALPs on Employment and Earnings in Poland

	Comparison group	ALP group	Difference	t-Statistic on difference
Retraining				
EMPLOYED	0.49	0.61	0.12**	9.35
EARNINGS	511	534	24**	2.61
Public Works				
EMPLOYED	0.53	0.45	-0.08**	4.08
EARNINGS	481	468	-14	0.96
Intervention Works				
EMPLOYED	0.52	0.78	0.26**	19.10
EARNINGS	485	485	0	0.01
Self-employment				
EMPLOYED	0.66	0.97	0.31**	16.31
EARNINGS	593	796	203**	6.63

** Statistically significant at the 95 percent confidence level in a two-tailed test.
* Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 20. Impact Estimates of Employment Service Use in Poland

POLAND	ES not used	Impact of ES	t-Statistic on difference
All comparison groups combined			
EMPLOYED	0.50	0.05**	4.19
EARNINGS	512	-13	1.33
Retraining comparison group			
EMPLOYED	0.46	0.06**	3.07
EARNINGS	519	-17	1.24
Public Works Comparison Group			
EMPLOYED	0.52	0.03	1.08
EARNINGS	484	-5	0.29
Intervention works comparison group			
EMPLOYED	0.48	0.08**	4.08
EARNINGS	478	15	0.74
Self-employment comparison group			
EMPLOYED	0.65	0.02	0.57
EARNINGS	606	-31	0.89

** Statistically significant at the 95 percent confidence level in a two-tailed test.

* Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 21. Comparison of Alternative Impact Estimates of ALPs on Employment and Earnings in Hungary

	Comparison group	Group retraining	Individual retraining	Wage subsidy	Public service employment	Self-employment
EMPLOYED						
Means	0.54	0.56	0.62	0.71	0.35	0.93
Unadjusted Impact		0.02	0.09**	0.17**	-0.19**	0.39**
Regression Adjusted		0.09**	0.11**	-0.09**	-0.26**	0.15**
Matched pairs		0.08**	0.11**	-0.11**	-0.37**	0.13**
With ES Interaction		0.09**	0.11*	-0.11**	-0.26**	0.14
EARNINGS						
Means	18,202	20,237	20,205	20,740	18,952	13,045
Unadjusted Impact		2,035**	2,003**	2,538**	750*	-5,157**
Regression Adjusted		1,788**	1,649**	2,070**	802*	-6,218**
Matched pairs		2,413**	1,536**	2,217**	727*	-6,604**
With ES Interaction		1,805*	1,603**	1,836	742	-7,057**

** Difference significant at the 95 percent confidence level in a two-tailed test.

* Difference significant at the 90 percent confidence level in a two-tailed test.

[a] EMPLOYED - Started a new non-subsidized job or self employment after registering as unemployed or completing participation in an active labor program (ALP).

[b] EARNINGS - Starting average monthly earnings on the first new non-subsidized job or self employment after registering as unemployed or completing participation in an active labor program (ALP).

Table 22. Control Variables for Regression Adjusted Impact Estimates of Hungarian Active Labor Programs

Variable	Description
PRIORWAGE	Average monthly earnings before unemployment
AGE	Age in years as of April 1, 1997
MALE	Gender: male=1, female=0
PRIMARY	Education level, less than 8 classes: 1=yes, 0=no
SECONDARY	Education level, vocational: 1=yes, 0=no
VOCATIONAL	Education level, secondary: 1=yes, 0=no
COL-UNIV	Education level, higher education: 1=yes, 0=no (omitted category)
WASWORKING	Earlier employment status, employed: 1=yes, 0=no (omitted category)
WASUNEMP	Earlier employment status, lost employment: 1=yes, 0=no
WASSCHOOL	Earlier employment status, school leaver: 1=yes, 0=no
WASOTHER	Earlier employment status, other: 1=yes, 0=no
SPECIAL	Special difficulties in finding a job: 1=yes, 0=no
LEGIS2	Occupation of wanted job, legislators, managerial: 1=yes, 0=no
PROF2	Occupation of wanted job, professionals: 1=yes, 0=no
TECH2	Occupation of wanted job, technicians: 1=yes, 0=no
CLERK2	Occupation of wanted job, clerks: 1=yes, 0=no
SERV2	Occupation of wanted job, service workers: 1=yes, 0=no
SKILLAG2	Occupation of wanted job, skilled agricultural: 1=yes, 0=no
CRAFT2	Occupation of wanted job, craft workers: 1=yes, 0=no
MACH2	Occupation of wanted job, machine operators: 1=yes, 0=no
ELEM2	Occupation of wanted job, elementary: 1=yes, 0=no (omitted category)
ARMED2	Occupation of wanted job, armed forces: 1=yes, 0=no

Table 22 (continued)

Variable	Description
MARRIED	Spouse living in same household: 1=yes, 0=no
SPOUSEMP	Spouse employed: 1=yes, 0=no
HHOTHER	Other household members (count)
KIDS_LE6	Number of children in household age 0-6
DEPENDENTS	Number of children in household age 6+ plus other dependents
HHEARN	Net monthly household earnings
COUNTY	Ten county indicator variables: 1=yes, 0=no (Budapest was omitted)

Table 23. Exogenous Variables Used for Creating Matched Pairs Comparison Groups for Hungarian Active Labor Program Participant Samples

Variable	Description
AGE	Age in years as of April 1, 1997
MALE	Gender: male=1, female=0
PRIMARY	Education level, less than 8 classes: 1=yes, 0=no
SECONDARY	Education level, vocational: 1=yes, 0=no
VOCATIONAL	Education level, secondary: 1=yes, 0=no
COL-UNIV	Education level, higher education: 1=yes, 0=no (omitted category)

Table 23 (continued)

Variable	Description
WASWORKING	Earlier employment status, employed: 1=yes, 0=no (omitted category)
WASUNEMP	Earlier employment status, lost employment: 1=yes, 0=no
WASSCHOOL	Earlier employment status, school leaver: 1=yes, 0=no
WASOTHER	Earlier employment status, other: 1=yes, 0=no
LEGIS2	Occupation of wanted job, legislators, managerial: 1=yes, 0=no
PROF2	Occupation of wanted job, professionals: 1=yes, 0=no
TECH2	Occupation of wanted job, technicians: 1=yes, 0=no
CLERK2	Occupation of wanted job, clerks: 1=yes, 0=no
SERV2	Occupation of wanted job, service workers: 1=yes, 0=no
SKILLAG2	Occupation of wanted job, skilled agricultural: 1=yes, 0=no
CRAFT2	Occupation of wanted job, craft workers: 1=yes, 0=no
MACH2	Occupation of wanted job, machine operators: 1=yes, 0=no
ELEM2	Occupation of wanted job, elementary: 1=yes, 0=no
ARMED2	Occupation of wanted job, armed forces: 1=yes, 0=no
MARRIED	Spouse living in same household: 1=yes, 0=no
SPOUSEMP	Spouse employed: 1=yes, 0=no
HHOTHER	Other household members (count)
KIDS_LE6	Number of children in household age 0-6
DEPENDENTS	Number of children in household age 6+ plus other dependents
HHEARN	Net monthly household earnings
COUNTY	Ten county indicator variables: 1=yes, 0=no

Table 24. Impact of the Employment Service in Hungary on Employment and Earnings

HUNGARY	ES not used	Impact of ES	t-statistic on difference
Comparison group			
EMPLOYED	0.48	0.10**	6.17
EARNINGS		-187	0.49
Group Retraining			
EMPLOYED		0.09**	2.25
EARNINGS		-547	0.60
Individual retraining			
EMPLOYED		0.08	0.21
EARNINGS		-313	1.11
Wage subsidy			
EMPLOYED		0.02**	5.83
EARNINGS		-719*	1.69
Public service employment			
EMPLOYED		0.06**	2.34
EARNINGS		-808**	3.35
Self-employment			
EMPLOYED		0.060	1.69
EARNINGS		-845	1.36

** Impact estimate significant at the 95 percent confidence level in a two-tailed test.

* Impact estimate significant at the 90 percent confidence level in a two-tailed test.

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